

**Chapter 10 Practice Test****10.1 Add and Subtract Polynomials**

Find the sum or difference. Make sure your answer is in standard form. Be careful of your signs!

1.  $(-8x^3 + x - 9x^2) + (8x^2 - 2x + 4)$

2.  $(4x^2 - 1) - (3x - 2x^2)$

3.  $(12x - 8x^2 + 6) - (-8x^2 - 3x + 4)$

4.  $(5m^3 + 7m^2 + 13m - 9) + (8m^4 + 5m^2 - 6m - 9)$

5.  $(12p^2 + 9p - 13) - (-12p^2 - 20p - 13)$

6.  $(7q^5 - 6q^4 - 5q) + (20q^5 - 18q^4 - 17q)$

**10.2 Multiply Polynomials**

Find the product of each. All answers must be in standard form!

7.  $(3m - 8)(4m + 6)$

8.  $(2c^2 + 8c)(5c^2 - 7c + 6)$

9.  $(15b - 5)(3b^2 - 4b + 6)$

10.  $5v^4(12v^5 + 6v^3 - 10)$

11.  $(17y^3 + 4y^2 + 16)(5y + 3)$

12.  $\left(\frac{3}{5}s + 1\right)\left(\frac{2}{3}s + 6\right)$

### 10.3 Special Products of Polynomials

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Find The Product. All answers must be in standard form!

13.  $(2 + c)^2$

14.  $(4j - 6)^2$

15.  $(12n - 3)(12n + 3)$

16.  $(8 - 4j)(8 + 4j)$

17.  $5u^4(6u^3 - 4u^2 + u - 8)$

18.  $(2p - 5q)(7p^3 - 4pq + 8)$

### 10.4 Solving Polynomial Equations in Factored Form

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Solve Each Equation.

19.  $(x + 4)(x + 6) = 0$

20.  $(y + 3)^2 = 0$

21.  $5(3m + 8)(4m + 1) = 0$

22.  $5v(6v + 1)(4v - 3) = 0$

23.  $\left(2n - \frac{1}{4}\right)\left(5n + \frac{3}{10}\right)\left(3n - \frac{2}{3}\right) = 0$

24.  $4(b + 6)^3 = 0$

### 10.5 Factoring a quadratic expression

Factor the polynomial.

25.  $x^2 - 10x + 21$

26.  $5m^3 - 6m$

27.  $n^2 - 7n - 30$

28.  $c^2 - 17c + 60$

29.  $x^2 + 3x - 18$

30.  $45v^4 - 20v^2$

Solve the equation by factoring.

31.  $x^2 + 5x - 14 = 0$

32.  $x^2 - 20x = -51$

33.  $2p^3 + 16p^2 + 30p = 0$

34.  $k^2 - 20k = -100$

35.  $g^2 - 9g + 18 = 2g$

36.  $3x^2 + 24x = -48$

### 10.6 Factoring a quadratic equation in the form $ax^2 + bx + c$

Factor the trinomial.

37.  $10x^2 + 17x + 6$

38.  $7x^2 - 4x - 3$

39.  $16x^2 - 10x - 6$

40.  $x^4 + 12x^3 + 35x^2$

41.  $10v^2 + 13v - 3$

42.  $6m^2 - 5m - 21$

### 10.7 Factoring Special Products

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Factor.

43.  $m^2 - 6m + 9$

44.  $x^2 + 12x + 36$

45.  $16n^2 - 100$

### 10.8 Factoring using the Distributive Property

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Factor completely and solve.

46.  $32x^3 - 18x = 0$

47.  $50u^6 - 32u^4 = 0$

48.  $x^3 - 2x^2 - 9x + 18 = 0$

49.  $x^3 + 2x^2 - 36x = 72$

50.  $K^3 - k^2 = 16k - 16$

51.  $3rs - s + 12r - 4 = 0$

Factor completely.

52.  $6j^4 + 5j^3 - 24j - 20$

53.  $4y^2 + 8ay - y - 2a$

54.  $ab - 2b + ac - 2c$

55.  $4x^2 - 8xy - 3x + 6y$

56.  $x^2 + xy + xz + yz$

57.  $c^3 - 2c^2 + 3c - 6$